

Attorney's Docket No.: 10559/293001

REMARKS

Claims 1-3, 5-26, 28, 29, and 31-35 were pending in the application. New claims 36-39 have been added. New claims 36-39 are supported in the specification; for example, see page 4, lines 10-13 of the specification. Therefore, no new matter has been added.

Claims 1-3, 5-26, 28, 29, and 31-35 stand variously rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over various combinations of U.S. Patent No. 4,774,688 to Kobayashi et al. ("Kobayashi"), PCT publication WO 9923548 to Oberman et al. ("Oberman"), and the Stroustrup publication entitled "The C++ Programming Language" ("Stroustrup").

The rejections are respectfully traversed. Reconsideration and allowance are respectfully requested.

Claims 1-3 and 5-10

Claim 1 recites "executing a first machine instruction by: concurrently comparing M data elements retrieved when executing a previous machine instruction to M corresponding current extreme values; updating a set of M references based on said comparing; and retrieving another M elements in a single fetch cycle to be compared when executing a subsequent machine instruction."

Attorney's Docket No.: 10559/293001

None of the cited portions of the references teach or suggest that execution of a single instruction include each of the above features. For example, FIG. 45B of Oberman, which shows pseudocode for instruction 3180, clearly does not suggest "retrieving another M elements in a single fetch cycle to be compared when executing a subsequent machine instruction." Further, the cited portions of the references provide no motivation for such a modification. Therefore, claim 1 is patentable over the cited references.

Claims 2, 3, and 5-10 depend from claim 1, and are therefore patentable for at least the same reasons as stated above with respect to claim 1.

Claims 11-18 and 36-39

Claim 11 includes similar features, and is therefore patentable for at least the same reasons as stated above with respect to claim 1. Claim 11 further recites "analyzing results of the machine instructions to identify at least a value and a position of at least one extreme value in the array." The cited portions of the references neither teach nor suggest this feature of claim 11.

Identifying both a value and a position of at least one extreme value in an array allows the identification of parameters such as the first or last occurrence of a minimum or maximum value in an array, in addition to the value of this

Attorney's Docket No.: 10559/293001

minimum or maximum. In contrast, the cited portion of Oberman teaches finding minimum or maximum values of the array.

Further, there is no motivation in the cited portions of the references to identify both a value and a position of at least one extreme value in an array. For at least this additional reason, claim 11 is patentable over the cited portions of the references.

Claims 12-18, and 36-39 depend from claim 11, and are therefore patentable for at least the same reasons as stated above with respect to claim 11.

Claims 19-26 and 28

Claim 19 recites "updating accumulators and pointers associated with the M current extreme values based on said comparing." Thus, claim 19 is patentable over the cited portions of the references because they neither teach or suggest updating both accumulators and pointers.

The office action alleges that Stroustrup teaches that a set of references comprise pointer registers to store addresses for data quantities. However, neither Stroustrup nor the cited portion of Oberman provides any motivation for using both pointers and accumulators. For example, there is no motivation to obtain the location of an extreme value as well as its value.

Attorney's Docket No.:10559/293001

Claims 20-26 and 28 depend from claim 19 and are therefore patentable for at least the reasons stated above with respect to claim 19.

Claims 29 and 31-35

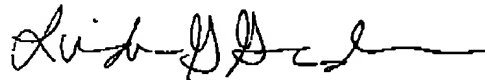
Claim 29 includes features similar to those of claim 19, and is patentable for at least the same reasons as stated above with respect to claim 19. Claims 31-35 depend from claim 29, and are therefore patentable for at least the same reasons as stated above with respect to claim 29.

In view of the amendments and remarks herein, claims 1-3, 5-26, 28, 29, and 31-39 are in condition for allowance, and a notice to that effect is respectfully solicited.

Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

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Linda G. Gunderson
Reg. No. 46,341
Attorney for Intel Corporation

Fish & Richardson P.C.
PTO Customer Number: 20985
4350 La Jolla Village Drive, Suite 500
San Diego, CA 92122
Telephone: (858) 678-5070
Facsimile: (858) 678-5099
10389536.doc